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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,161	02/21/2002	Nils Ramon Marchant	100-019	1891
25191	7590	08/07/2006	EXAMINER	
Burr & Brown PO BOX 7068 SYRACUSE, NY 13261-7068			SOL, ANTHONY M	
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			2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,161

Applicant(s)

MARCHANT, NILS RAMON

Examiner

Anthony Sol

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 March 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

- Applicant's Amendment filed 3/13/2006 is acknowledged.
- The previous objections to claims 3, 5-17, and 20-24 are withdrawn.
- Claims 3, 20, and 24 have been amended.
- The Applicant indicates that claim 4 is "currently amended," but it is unclear what is being amended. If the Applicant meant to delete one of the periods at the end of the sentence, it is suggested to use double brackets.
- Claims 1-24 remain pending.

Claim Objections

1. Claim 15 is objected to because of the following informalities:
 - For claim 15, line 3 it is believed that "output of said other or said remaining" should state –output of said other of said remaining--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
3. Claims 13-15 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 13 recites the limitation "said ports P_1 - P_4 " in line 4. There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1, 11, and 13-18 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 5,959,972 ("Hamami").

Regarding claims 1 and 16-18,

Hamami shows first, second, and third ports (P_1 - P_3) each having an input and an output (Fig. 2, ports 0, 1, 2 of ATM Switch #1).

Hamami discloses that the switch arranged so that a first flow presented to the input of one of P_1 - P_3 is delivered to the output of an other of P_1 - P_3 , and a second flow presented to the input of said other of P_1 - P_3 is delivered to the output of said one of said

P_1 - P_3 (Fig. 2, dotted line connecting port 0 and port 1 represent first and second flows between the ports).

Hamami further discloses detecting means for detecting a predetermined characteristic of the flows presented at the input of each of P_1 - P_3 (col. 6, lines 28-44, *the keep alive virtual circuit is used to detect the occurrence of a failure of the main link or either of its ports*. Col. 4, lines 64-65, *a plurality of ports of which only three are shown for clarity sake*).

Hamami still further discloses control means which, upon the detecting means detecting said predetermined characteristics in one of said first flow and said second flow, internally diverts the other of the first flow and second flow to be presented to the output of a remaining one of P_1 - P_3 (col. 7, lines 4-6, *upon receiving an acknowledgment from the control software, both backup link ports enable ingress traffic to proceed over the backup link*).

Note that for claims 16 and 17, the claimed first and second sites (X_1 , X_2) is equivalent to Hamami's Fig. 2's station #1 24 and station #2 26, respectively, and first and second switches (S_1 , S_2) is equivalent to Hamami's Fig. 2's ATM switches #1 22 and #2 26, respectively. Also, note that in reality there are a plurality of ports between the two switches of Hamami, but only two (ports 1, 2) are shown for each switch.

6. Regarding claim 11,

Hamami discloses detecting when the main link is restored, returning ingress traffic to the main link upon the restoration of the main link (col. 3, lines 55-59).

7. Regarding claim 13,

Hamami discloses that the failure of the main link is detected when one or both of the backup link ports fails to receive a keep alive message (claimed status signal) from its peer backup link port. Hamami further discloses that the keep alive messages can originate from any suitable portion of the switch such as from the backup link port itself or from the control software in the controller (col. 6, lines 39-44).

8. Regarding claim 14,

Hamami discloses that the keep alive messages can originate from any suitable portion of the switch such as from the backup link port itself or from the control software (claimed signal generating means) in the controller (col. 6, lines 39-44).

9. Regarding claim 15,

Hamami shows in Fig. 2, if port 1 were to fail, the keep alive messages 66 would be sent out on port 2.

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 2, 4, 5, 6, 19 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Hamami in view of U.S. Patent No. 6,292,463 B1 ("Burns").

Regarding claims 2 and 19,

Hamami does not disclose a timer means for counting a time T for which the detecting means detects the existence of said predetermined characteristic of the flows and wherein said control means only diverts the other of the first and second flows to the output of said remaining one of P_1 - P_3 when the time T is equal to or exceeds a predetermined time T_{wait} .

Burns discloses setting a countdown timer, which triggers each connection manager to dismantle cross-connect after a specified time period has elapsed (Burns, Col. 8, lines 15-18).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to combine the protection switching system of Hamami with the time-out feature of Burns. One skilled in the art would have been motivated to make the combination because signaling failure may be quickly corrected and since release of bearer channel cross-connects is very disruptive to calls if there has in fact been no failure in the bearer channels or their cross-connects (Burns, col. 2, lines 51-53).

12. Regarding claims 4 and 23,

Hamami does not disclose predetermined characteristic is the absence of said

flow for said period T_{wait} .

Burns discloses detection of a failure (claimed absence of said flow) in a signaling network which affects the call and actuating a timed release of the cross-connects.

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to combine the protection switching system of Hamami with the timer actuated after detection of failure as taught by Burns. One skilled in the art would have been motivated to make the combination because signaling failure may be quickly corrected and since release of bearer channel cross-connects is very disruptive to calls if there has in fact been no failure in the bearer channels or their cross-connects (Burns, col. 2, lines 51-53).

13. Regarding claim 5,

Hamami discloses when the main link fails, either one or both of the backup link ports detects the failure and the data traffic is then (claimed T_{wait} is zero) switched from the main link to the backup link (col. 2, lines 58-60).

14. Regarding claim 6,

Hamami does not disclose T_{wait} is different for each P_1 - P_3 .

Burns shows in box 46 setting a timer for delayed release of bearer channel cross-connects depending on a unique call identifier as shown in box 40 (claimed T_{wait} is different for each P_1 - P_3).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to combine the protection switching system of Hamami with the timer actuated with different T_{wait} for each P_1 - P_3 upon detection of failure as taught by Burns. One skilled in the art would have been motivated to make the combination because resending of signals from different sending nodes may have different transmission delay.

15. Claims 7 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Hamami in view of U.S. Patent No. 5,226,044 ("Gupta").

Hamami does not disclose that predetermined characteristic is a predetermined reduction in the rate of flow at said inputs.

Gupta discloses a data rate detector that detects and classifies the data rate into one of three categories according to a preset threshold (col. 7, lines 65 to col. 8, lines 1-10).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the protection switching system of Hamami to include the data rate detector of Gupta. One skilled in the art would have been motivated to make the modification so that data such as voice can be switched to a special channel where it can be properly processed in order to avoid situations such as "speech clipping" (Gupta, col. 1, lines 15-28, col. 4, lines 50 to col. 5, lines 1-35).

16. Claims 8 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Hamami in view of U.S. Patent No. 6,125,104 ("Shiragaki").

Hamami discloses a method of port/link redundancy in an ATM switch (claimed flows relate to communication signals; Abstract, lines 1-2).

Hamami does not disclose that the predetermined characteristic is a predetermined bit error rate, or signal to noise ratio.

Shiragaki discloses that processor 43 of Fig. 4 determines that one of the incoming optical links 40 has failed when the output of BER monitor circuit 73 has a predetermined value and transmits an alarm message to the upstream node (col. 5, lines 48-58).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the protection switching system of Hamami to include a BER monitor circuit as taught by Shiragaki. One skilled in the art would have been motivated to make the modification since networking applications utilizing ATM technology require very high reliability connectivity between network elements (Hamami, col. 2, lines 17-22).

17. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamami in view of U.S. Patent No. 5,828,978 ("Anand").

Hamami does not disclose a fourth port P_4 , having an input and an output in communication with said control means for allowing external control of said control means including to control said control means to force a change in state of said switch.

Anand discloses a central controller coupled to a bus and applies clock signal thereto. Anand further discloses that the controller also receives and applies data signals to the bus (claimed port P₄ having an input and an output) in which a plurality of remote stations are coupled to the bus. Anand still further discloses that a first such remote station counts the clock signals and can apply first a data signal to the bus during a time period corresponding to a first selected count (claimed to control said control means to force a change in state of said switch)(col. 4, lines 18-35).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the protection switching system of Hamami to include a bus/port in communication with remote stations to receive data signals in response to transmitted clock signals as taught by Anand. One skilled in the art would have been motivated to make the modification in order to utilize multiplex techniques in transmitting data signals among interface circuits (Anand, col. 4, lines 15-18).

18. Claims 3 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamami in view of Burns, and in further view of Anand.

Hamami in combination with Burns does not disclose a dummy flow means for producing a dummy flow to be delivered in an absence of that flow being detected as having predetermined characteristic.

Anand discloses that in the event of a break in a transmission line, dummy data are transmitted to the neighboring station (col. 2, lines 63-66).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the protection switching system of Hamami with the dummy data generating feature as taught by Anand. One skilled in the art would have been motivated to make the combination so that the remaining stations shift back to the original output status and since there has been no data transmitted to the station connected to the line break, the master station can thus recognize the location of the line break (Anand, col. 3, lines 1-6).

19. Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamami in view of Burns, and in further view of Anand, and still in further view of Shiragaki.

Hamami in combination with Anand does not disclose that the dummy flow means is in the form of a generator for generating a flow of the same type as the flow presented to the inputs of the switch.

Shiragaki discloses that processor 43 of Fig. 4 determines that one of the incoming optical links 40 has failed when the output of BER monitor circuit 73 has a predetermined value and transmits an alarm message (claimed flow of the same type) to the upstream node (col. 5, lines 48-58).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the Hamami's protection switching system having a dummy data generating feature of Anand with the feature of transmitting an alarm message as taught by Shiragaki.. One skilled in the art would have been

motivated to make the modification in order to send to the upstream node a known flow type so as not to trigger further errors in the upstream nodes.

20. Claims 10 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hamami in view of Burns, and in further view of Anand, and still in further view of Shiragaki.

Hamami in combination with Anand does not disclose that the dummy flow means includes means for sampling and subsequently replicating the flow presented to the inputs of the switch.

Wilson discloses a technique that replicates samples of the digital input signal (col. 3, lines 36-37).

It would have been *prima facie* obvious to one of ordinary skill in the art at the time of the invention was made to modify the Hamami's protection switching system having a dummy data generating feature of Anand with the feature of replicating samples of digital input signals as taught by Wilson. One skilled in the art would have been motivated to make the modification in order to send to the upstream node a sampled replica of the input signals so as not to trigger further errors in the upstream nodes.

Response to Arguments

21. Applicant's arguments with respect to claim 1-24 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


- Stalick (US5216666) teaches 1:N ring-type signal protection apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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